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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,515	01/05/2001	Shihong Yu	0739D-000086	7460

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Harness, Dickey & Pierce, P.L.C.  
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Bloomfield Hills, MI 48303

EXAMINER

VU, STEPHEN A

ART UNIT	PAPER NUMBER
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3636

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/755,515

**Applicant(s)**

YU, SHIHONG

**Examiner**

Stephen A Vu

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 36-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-40, 43, 44 and 47-56 is/are rejected.
- 7) ☒ Claim(s) 41-42 and 45-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 36-40, 43-44, and 47-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryan (#5,788,330).

Ryan shows a seat assembly comprising a seat (14), a seat back (16) connected to the seat (14), and a fold-flat hinge assembly (10) including: a support member (18), an arm (98) pivotally supported by the support member, mounting the seat back, and including a plurality of gear teeth (96) formed thereon. A shaft (106) is rotatably supported within a first slot of the support member and a blocking pin (120) is slidably supported by the support member and in mechanical communication with the shaft. The blocking pin is slidable to a first position wherein the blocking pin prevents forward rotational motion of the arm relative to the support member; and a gear (90) fixedly attached to the shaft and interacting with the gear teeth of the arm to move the blocking pin to a second position wherein the arm is free to rotate relative to the support member and whereby the seat back is rotatable relative to the seat.

With claims 37, 48, and 53, at least one lever arm is pivotally attached to the support member at a pivot point and wherein the lever arm rotatably supports the shaft

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at a first end and a link arm at a second end, with the link arm further connecting to the sliding pin.

With claims 38, 49, and 54, a slot is formed in the arm and a stop pin is attached to the support member. The slot slidably interfaces the stop pin for defining a rotational range of motion of the arm relative to the support member.

With claim 50, the shaft is also slidably supported in the first slot by the support member for sliding from a first position to a second position in response to the gear interacting with the gear teeth for moving the blocking pin to the second position.

With claims 40, 51, and 56, the arm is able to rotate relative to the support member when the shaft is in the second position.

Claims 36-40, 43-44, and 47-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Robinson (#5,813,725).

Robinson shows a seat assembly comprising a seat (16), a seat back (14) connected to the seat (16), and a fold-flat hinge assembly (10) including: a support member (18), an arm (20) pivotally supported by the support member, mounting the seat back, and including a plurality of gear teeth (28) formed thereon. A shaft (36) is rotatably supported within a first slot of the support member and a blocking pin (58) is slidably supported by the support member and in mechanical communication with the shaft. The blocking pin is slidable to a first position wherein the blocking pin prevents forward rotational motion of the arm relative to the support member; and a gear fixedly attached to the shaft and interacting with the gear teeth of the arm to move the blocking

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pin to a second position wherein the arm is free to rotate relative to the support member and whereby the seat back is rotatable relative to the seat.

With claims 37, 48, and 53, at least one lever arm is pivotally attached to the support member at a pivot point and wherein the lever arm rotatably supports the shaft at a first end and a link arm at a second end, with the link arm further connecting to the sliding pin.

With claims 38, 49, and 54, a slot is formed in the arm and a stop pin is attached to the support member. The slot slidably interfaces the stop pin for defining a rotational range of motion of the arm relative to the support member.

With claim 50, the shaft is also slidably supported in the first slot by the support member for sliding from a first position to a second position in response to the gear interacting with the gear teeth for moving the blocking pin to the second position.

With claims 40, 51, and 56, the arm is able to rotate relative to the support member when the shaft is in the second position.

Claims 36-40, 43-44, and 47-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Hammoud et al (#5,558,403).

Hammoud et al show a seat assembly comprising a seat (16), a seat back (24) connected to the seat (16), and a fold-flat hinge assembly (30) including: a support member (66), an arm (42) pivotally supported by the support member, mounting the seat back, and including a plurality of gear teeth (106) formed thereon. A shaft (96) is rotatably supported within a first slot of the support member (66) and a blocking pin (56) is slidably supported by the support member and in mechanical communication with the

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shaft. The blocking pin is slidable to a first position wherein the blocking pin prevents forward rotational motion of the arm relative to the support member; and a gear fixedly attached to the shaft and interacting with the gear teeth of the arm to move the blocking pin to a second position wherein the arm is free to rotate relative to the support member and whereby the seat back is rotatable relative to the seat.

With claims 37, 48, and 53, at least one lever arm is pivotally attached to the support member at a pivot point and wherein the lever arm rotatably supports the shaft at a first end and a link arm at a second end, with the link arm further connecting to the sliding pin.

With claims 38, 49, and 54, a slot is formed in the arm and a stop pin is attached to the support member. The slot slidably interfaces the stop pin for defining a rotational range of motion of the arm relative to the support member.

With claim 50, the shaft is also slidably supported in the first slot by the support member for sliding from a first position to a second position in response to the gear interacting with the gear teeth for moving the blocking pin to the second position.

With claims 40, 51, and 56, the arm is able to rotate relative to the support member when the shaft is in the second position.

### ***Allowable Subject Matter***

Claims 41-42 and 45-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

The examiner has reviewed and acknowledged the applicant's Amendment, filed on October 14, 2004. Based on another examination of the claims, the examiner has decided to issue new prior art rejections. Therefore, this Office action is considered to be Non-final. Regarding the prior art of Ryan, the examiner has taken a second look at the prior art, and feels that Ryan meets the claim limitations as cited by the applicant. Specifically, Ryan discloses a shaft (106) rotatably supported within a first slot of the support member and a blocking pin (120) slidably supported by the support member and in mechanical communication with the shaft.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A Vu whose telephone number is 703-308-1378. The examiner can normally be reached on M-F from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M Cuomo can be reached on 703-308-0827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen Vu  
January 4, 2005